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EXAMINER	
BAUM, STUART F	

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1638	12

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/434,837	Applicant(s) REAM ET AL.	
	Examiner Stuart Baum	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 May 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 25-40* is/are pending in the application.

4a) Of the above claim(s) *29-40* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 25-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7, 9, 10
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Applicant's election with traverse of Group I, claims 1-16, and 25-28 including SEQ ID NO:10 in Paper No. 11 is acknowledged. The traversal is on the ground(s) that the Applicant would like to include more than one sequence in the present invention. Applicant purports that having more than one sequence transformed into a plant can be more effective at treating gall disease than those plants in which only one sequence is transformed into the plants.

This is not found persuasive because the claims as originally written are drawn to a method of producing a plant cell that is resistant to gall disease comprising transforming a plant cell with at least one sequence. In addition, transforming a plant with more than one sequence requires different starting material and would produce a different end product and would require a separate search.

The requirement is still deemed proper and is therefore made FINAL.

Claims 17-24 have been cancelled.

Claims 29-40 have been added.

Newly submitted claims 29-40 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: transforming a plant with more than one sequence requires different starting material and would produce a different end product and would require a separate search.

Accordingly, claims 29-40 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claims 2, and 11 are objected to for reciting non-elected material.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-16, and 25-28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to a method of producing a plant cell that is resistant to gall disease and a method of producing a plant exhibiting a reduced susceptibility to gall disease comprising transforming a plant cell with at least one nucleic acid molecule that is homologous to at least one gene responsible for causing gall disease or fragment thereof, a plant and chimeric plant transformed with said nucleic acid molecule and subsequent plants produced by a sexual or asexual method including resulting seeds. The claims are also drawn to a plant transformation vector comprising SEQ ID NO:10 or sequences 60% identical to SEQ ID NO:10 or fragments thereof and plant cells and plant transformed with said vector.

The Applicants do not identify structural features unique to genes responsible for causing gall disease and they do not identify structural features unique to the protein encoded by SEQ ID NO:10, the functional domains of either protein nor the overall function of the proteins. In addition, the Applicants do not specify the genotype or phenotype of plants transformed with a gene responsible for causing gall disease. The Federal Circuit has recently clarified the application of the written description requirement to inventions in the field of biotechnology. See

University of California v. Eli Lilly and Co., 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997). In summary, the court stated that a written description of an invention requires a precise definition, one that defines the structural features of the chemical genus that distinguishes it from other chemical structures. A definition by function does not suffice to define the genus because it is only an indication of what the gene does, rather than what it is. Given the lack of description for nucleic acid molecules that when transformed into a plant reduce the susceptibility of the plant to gall disease and given the lack of description for SEQ ID NO:10, it remains unclear what features identify a nucleic acid molecules that when transformed into a plant reduce the susceptibility of the plant to gall disease, and what features identify SEQ ID NO:10 including a gene with 60% homology to SEQ ID NO:10. In addition, Applicant has not described the genotype, or phenotype of plants transformed with the respective genes. Since none of the proteins previously-mentioned have not been described by specific structural features or by specific function, and since the claimed plants have also not been described by genotype or phenotype, the specification fails to provide an adequate written description to support the generic claims.

Claims 1-16, and 25-28 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for claims limited to an isolated *iaaM* nucleic acid molecule of SEQ ID NO:10 operably linked 5' to a 35S CaMV promoter and operably linked 3' to a NOS promoter wherein the two promoters produce RNA molecules that anneal with each other to produce a double stranded RNA molecule, wherein the *iaaM* nucleic acid oncogene was modified by changing the third codon to a stop codon and introducing a frameshift mutation downstream of the introduced stop codon thereby creating additional stop codons in the reading

frame and tobacco transformation therewith, to obtain plants that are resistant to *Agrobacterium* infection does not reasonably provide enablement for claims broadly drawn to any polynucleotide encoding any protein that is responsible for causing gall disease or fragment thereof or any polynucleotide that is 60% identical to SEQ ID NO:10 and any fragment thereof, or drawn to plant transformation as specified in claims 15, 25, 26, 27, and 28 with the exemplified or non-exemplified genes for obtaining a plant exhibiting resistance to gall disease. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The claims are broadly drawn to any nucleic acid sequence or fragment thereof responsible for causing gall disease or any sequence exhibiting 60% sequence identity to SEQ ID NO:10 or fragments thereof. The specification fails to specify how many stop codons are required or where the stop codons need to be inserted to ensure that the RNA molecules transcribed from *Agrobacterium* DNA that has been incorporated into the plant's genome are degraded. The specification also fails to specify at what level of homology the mechanism associated with double stranded RNA degradation is no longer active.

Using sequences exhibiting below a 100% sequence identity as compared to a reference sequence produces unpredictable RNA degradation results. Moonan et al (2002, Journal of Virology 76(3):1339-1348) teach " sugarcane plants expressing untranslated viral capsid sequences of *Sorghum mosaic virus* strain SCH, challenged with SrMV viruses of strains SCM and SCI and *Sugarcane mosaic virus* strain, show various levels of virus resistance that correlated with the percentage of sequence identity of the transgenes to the sequence of the

challenging virus" (page 1347, 1st paragraph, right column). Therefore, the protection achieved using sequences that exhibited less than 100% sequence identity to the respective viral gene resulted in an inferior viral protection.

Given the unpredictability of achieving RNA degradation using sequences of DNA that exhibit various degrees of sequence identity as compared to a reference sequence; and given the lack of guidance and working examples of selecting a sequence that can be transformed into a plant to facilitate resistance to *Agrobacterium* induced gall disease and given the lack of working examples and guidance in constructing a vector comprising a DNA sequence in which stop codons have been inserted as well as 5' and 3' promoter sequences operably linked to produce a double stranded RNA sequence that initiates RNA degradation of a target RNA molecule; given the state of the art that teaches the efficiency of targeted RNA degradation decreases as one uses nucleic acid sequences exhibiting reduced homology as compared to the target sequence; and given the breadth of the claims which encompass a multitude of sequences that have not been exemplified, it would require undue experimentation by one skilled in the art to make and/or use the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-14 are rejected under 35 U.S.C. 102(a) as being anticipated by Li et al (12 November, 1998, WO9849888).

The claims are drawn to a recombinant nucleic acid molecule comprising a sequence having at least 60% identity to SEQ ID NO:10 and when introduced into and expressed in a plant reduces susceptibility of the plant to disease caused by *Agrobacterium*. The claims are also drawn to a transgenic plant and plant cell comprising a vector comprising the before-mentioned nucleic acid sequence.

Li et al teach a vector comprising the IaaM gene which exhibits 95.4% sequence identity to SEQ ID NO:10 (from sequence search results), operably linked to a promoter all of which is transformed into a tomato plant (pages 16-18, Examples 1 and 2). It would be an inherent quality of this sequence to reduce susceptibility of a plant transformed with this sequence to disease caused by *Agrobacterium*. Given the disclosure by Li et al, the claimed invention is anticipated.

Claims 1-7, 9-14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiroyasu et al (1993, Kokai Number (1993) 68574; in IDS).

The claims are drawn to a method of producing a plant cell that is resistant to gall disease and a method of producing a plant exhibiting a reduced susceptibility to gall disease comprising transforming a plant cell with at least one nucleic acid molecule that is homologous to at least one gene responsible for causing gall disease or fragment thereof, a plant transformed with said nucleic acid molecule and subsequent plants produced by a sexual or asexual method including resulting seeds.

Hiroyasu et al teach a method of inhibiting the transformation of tobacco plants by *Agrobacterium* comprising transforming tobacco leaf disks with the iaaM gene from

Agrobacterium in either sense or antisense orientation (page 3, Example 2). Hiroyasu et al teach a vector comprising said iaaM gene and a method of transforming tobacco leaf disks which results in tobacco plants resistant to *Agrobacterium* infection (page 3, Example 2). It would be an inherent property of this method to produce untranslatable plus-sense RNA molecules, double-stranded RNA molecules and untranslatable double-stranded RNA molecules, and as such anticipate the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroyasu et al (1993, Kokai Number (1993) 68574; in IDS) taken with Hartmann et al (1983, Plant Propagation, 4th edition, Prentice-Hall, Inc., Englewood Cliffs, pages 345-349, and 351-358).

The claim is drawn to a chimeric plant comprising at least one non-transformed plant cell grafted to a plant exhibiting a reduced susceptibility to disease caused by *Agrobacterium* comprising transforming a plant cell with at least one nucleic acid molecule that is homologous to at least one gene responsible for causing gall disease or fragment thereof,

Hiroyasu et al teach a method of inhibiting the transformation of tobacco plants by *Agrobacterium* comprising transforming tobacco leaf disks with the iaaM gene from

Agrobacterium in either sense or antisense orientation (page 3, Example 2). Hiroyasu et al teach a vector comprising said iaaM gene and a method of transforming tobacco leaf disks which results in tobacco plants resistant to *Agrobacterium* infection (page 3, Example 2). It would be an inherent property of this method to produce untranslatable plus-sense RNA molecules, double-stranded RNA molecules and untranslatable double-stranded RNA molecules

Hiroyasu et al do not teach making a chimeric plant by grafting.

Hartman et al teach the theory and method of grafting plants that is exemplified on pages 351-358. In addition, Hartmann et al teach the value of grafting in that it is a method that permits one to: 1) perpetuate clones that cannot readily be maintained by other methods of asexual propagation, 2) benefit from certain attributes of a particular rootstock, and 3) change cultivars of established plants (page 345, under "Reasons for grafting and budding"). In addition, Hartmann et al teach the value of selecting a disease resistant rootstock to be used to graft scion material with desired fruit and ornamental qualities that are not disease resistant (page 347, 1st paragraph).

Given the recognition of those of ordinary skill in the art of the value of producing plants that have a reduced susceptibility to disease caused by *Agrobacterium,* as taught by Hiroyasu et al, it would have been obvious to extend the disease protection as taught by Hiroyasu et al to plants that are not easily propagated by cuttings, layers, division and other methods, by using the grafting method as taught by Hartmann et al. The motivation to incorporate grafting is taught by Hartmann et al who state "Cultivars of some groups of plants, including most fruit and nut species and many other woody plants, such as eucalyptus and spruce, are not propagated commercially by cuttings..." and they continue "propagation in large quantities, it is necessary to

resort to budding or grafting scions of the desired cultivar onto rootstock plants with which they are compatible" (page 345, beginning in section entitled "Reasons for grafting and budding"). In addition, plants that are disease resistant can be used as rootstocks for cultivars that do not have this beneficial quality but have desirable fruit or ornamental qualities (page 347, 1st paragraph).

Thus the claimed invention would have been *prima facie* obvious as a whole to one of ordinary skill in the art at the time it was made, especially in the absence of evidence to the contrary.

Claims 11-15 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (12 November, 1998, WO9849888) taken with Firoozabady et al (1998, U.S. Patent Number 5,792,927).

The claims are drawn to a recombinant nucleic acid molecule comprising a sequence having at least 60% identity to SEQ ID NO:10 and when introduced into and expressed in a plant reduces susceptibility of the plant to disease caused by *Agrobacterium*. The claims are also drawn to a transgenic plant and plant cell comprising a vector comprising the before-mentioned nucleic acid sequence wherein the transgenic plant is selected from the group as specified in claim 15, in particular, rose and an ornamental shrub (of which rose is a member).

Li et al teach a vector comprising the IaaM gene which exhibits 95.4% sequence identity to SEQ ID NO:10 (from sequence search results), operably linked to a promoter all of which is transformed into a tomato plant (page 16-18, Example 1 and 2). It would be an inherent quality of this sequence to reduce susceptibility of a plant transformed with this sequence to disease caused by *Agrobacterium*.

Li et al do not teach transformation of rose.

Firoozabady et al teach a method of rose transformation.

Given the recognition of those of ordinary skill in the art of the value of producing tomato plants that have a reduced susceptibility to disease caused by *Agrobacterium,* as taught by Li et al, it would have been obvious to extend the disease protection as taught by Li et al to rose plants as taught by Firoozabady et al. The motivation to do this is stated by Firoozabady et al who teach that breeders are working to improve existing varieties particularly in ways to increase resistance to disease (column 1, 2nd paragraph) and using recombinant DNA technology will allow the production of new varieties of rose (column 1, 4th paragraph).

Thus the claimed invention would have been *prima facie* obvious as a whole to one of ordinary skill in the art at the time it was made, especially in the absence of evidence to the contrary.

Claims 11-14 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (12 November, 1998, WO9849888) taken with Lemieux (1996, U.S. Patent Number 5,567,599).

The claims are drawn to a recombinant nucleic acid molecule comprising a sequence having at least 60% identity to SEQ ID NO:10 and when introduced into and expressed in a plant reduces susceptibility of the plant to disease caused by *Agrobacterium*. The claims are also drawn to a transgenic plant and plant cell comprising a vector comprising the before-mentioned nucleic acid sequence wherein the transgenic plant is chrysanthemum.

Li et al teach a vector comprising the IaaM gene which exhibits 95.4% sequence identity to SEQ ID NO:10 (from sequence search results), operably linked to a promoter all of which is

transformed into a tomato plant. It would be an inherent quality of this sequence to reduce susceptibility of a plant transformed with this sequence to disease caused by *Agrobacterium*.

Li et al do not teach transformation of chrysanthemum.

Lemieux teach a method of chrysanthemum transformation.

Given the recognition of those of ordinary skill in the art of the value of producing tomato plants that have a reduced susceptibility to disease caused by *Agrobacterium,* as taught by Li et al, it would have been obvious to extend the disease protection as taught by Li et al to chrysanthemum plants as taught by Lemieux. The motivation to do this is stated by Lemieux "It would be desirable to use recombinant DNA technology to confer characteristics such as new color, increased flower life and disease and insect resistance to plants" (column 1 4th paragraph).

Thus the claimed invention would have been *prima facie* obvious as a whole to one of ordinary skill in the art at the time it was made, especially in the absence of evidence to the contrary.

Claims 11-14, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (12 November, 1998, WO9849888) taken with Ellis (1997, U.S. Patent Number 5,681,730) in view of Lemieux (1996, U.S. Patent Number 5,567,599).

The claims are drawn to a recombinant nucleic acid molecule comprising a sequence having at least 60% identity to SEQ ID NO:10 and when introduced into and expressed in a plant reduces susceptibility of the plant to disease caused by *Agrobacterium*. The claims are also drawn to a transgenic plant and plant cell comprising a vector comprising the before-mentioned nucleic acid sequence wherein the transgenic plant is selected from the group consisting of conifers and poplars.

Li et al teach a vector comprising the IaaM gene which exhibits 95.4% sequence identity to SEQ ID NO:10 (from sequence search results), operably linked to a promoter all of which is transformed into a tomato plant. It would be an inherent quality of this sequence to reduce susceptibility of a plant transformed with this sequence to disease caused by *Agrobacterium*.

Li et al do not teach transformation of conifers.

Ellis teaches a method of gymnosperm transformation which includes conifers.

Given the recognition of those of ordinary skill in the art of the value of producing tomato plants that have a reduced susceptibility to disease caused by *Agrobacterium,* as taught by Li et al, it would have been obvious to extend the disease protection as taught by Li et al to conifers as taught by Ellis. The motivation to do this is stated by Lemieux "It would be desirable to use recombinant DNA technology to confer characteristics such as new color, increased flower life and disease and insect resistance to plants" (column 1 4th paragraph).

Thus the claimed invention would have been *prima facie* obvious as a whole to one of ordinary skill in the art at the time it was made, especially in the absence of evidence to the contrary.

Claims 11-14 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (12 November, 1998, WO9849888) taken with James et al (1989, Plant Cell Reports 7:658-661) in view of Lemieux (1996, U.S. Patent Number 5,567,599).

The claims are drawn to a recombinant nucleic acid molecule comprising a sequence having at least 60% identity to SEQ ID NO:10 and when introduced into and expressed in a plant reduces susceptibility of the plant to disease caused by *Agrobacterium*. The claims are also

drawn to a transgenic plant and plant cell comprising a vector comprising the before-mentioned nucleic acid sequence wherein the transgenic plant is selected from the group of plants as specified in claim 28, in particular, apple.

Li et al teach a vector comprising the IaaM gene which exhibits 95.4% sequence identity to SEQ ID NO:10 (from sequence search results), operably linked to a promoter all of which is transformed into a tomato plant. It would be an inherent quality of this sequence to reduce susceptibility of a plant transformed with this sequence to disease caused by *Agrobacterium*.

Li et al do not teach transformation of apple.

James et al teach a method of apple transformation.

Given the recognition of those of ordinary skill in the art of the value of producing tomato plants that have a reduced susceptibility to disease caused by *Agrobacterium,* as taught by Li et al, it would have been obvious to extend the disease protection as taught by Li et al to apple as taught by James et al. The motivation to do this is stated in part by James et al who teach gene transfer improves the genetics of fruit trees (page 658, left column, 2nd paragraph) and in view of Lemieux who teach "It would be desirable to use recombinant DNA technology to confer characteristics such as new color, increased flower life and disease and insect resistance to plants" (column 1 4th paragraph).

Thus the claimed invention would have been *prima facie* obvious as a whole to one of ordinary skill in the art at the time it was made, especially in the absence of evidence to the contrary.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 10 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 10 is drawn to a seed produced by selfing or outcrossing the transformed plant. Due to Mendelian inheritance of genes, a single gene introduced into a parent plant would only be transferred at most to half the male gametes and half the female gametes. This translates into only two thirds of the progeny having at least a single copy of the transgene and one quarter of the progeny would not carry a copy of the transgene. In regards to outcrossing to wild-type plants, one half the progeny seeds would not carry the transgene. Given that there is no indication that there would be any other distinguishable characteristics of the claimed progeny (seeds), it is unclear whether the claimed seeds would be distinguishable from seeds that would occur in nature. See *Diamond v. Chakrabarty*, 447 U.S. 303 (1980), *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 76 USPQ 280 (1948), and *In re Bergy , Coats, and Malik* 195 USPQ 344, (CCPA) 1977. The amendment of the claims to recite that the seeds comprise the construct that was introduced into the parent seed would overcome the rejection.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 6-7, and 11 and all subsequent dependent claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 6, and 11 are indefinite and ambiguous in the recitation "and fragments thereof". It is not clear from this recitation, how long of a sequence constitutes a fragment. In a broad definition, one nucleic acid base pair constitutes a fragment. Applicant is requested to more explicitly define the length of the claimed fragments.

Claim 6, and 7 are indefinite in the recitation "reduced". How much of a reduction constitutes "reduced"? Does it have to be statistically significant? Applicant has not set the metes and bounds of the reduction of *Agrobacterium* infection.

Claim 11 is indefinite in the recitation "reduces". How much of a reduction constitutes "reduces"? Does it have to be statistically significant? Applicant has not set the metes and bounds of the reduction of *Agrobacterium* infection.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stuart Baum whose telephone number is (703) 305-6997. The examiner can normally be reached on Monday-Friday 8:30AM – 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (703) 306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3014 or (703) 305-3014 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the legal analyst, Kim Davis, whose telephone number is (703) 305-3015.

Stuart Baum Ph.D.

July 25, 2002

ELIZABETH F. McELWAIN
PRIMARY EXAMINER
GROUP 1600